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566.30812VC2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	H. OGAWA et al.
Serial No.:	Not Yet Assigned Division of Application Serial No. 08/176,689
Filed:	Even Date Herewith
For:	DISK DRIVE APPARATUS AND METHOD OF MOUNTING SAME
Art Unit:	3729 (Anticipated)
Examiner:	C. Arbes (Anticipated)

INFORMATION DISCLOSURE STATEMENT

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

March 21, 2001

Sir:

Pursuant to 37 CFR 1.97(b) and 1.98, attached hereto are copies of U.S. Patent Nos. 4,479,154 and 5,023,615 and seven forms PTO-1449 listing these two references.

Also listed on the forms PTO-1449 are the forty-eight references which were cited by or submitted to the U.S. Patent and Trademark Office in prior applications Serial No. 08/176,689 filed on January 3, 1994, and Serial No. 07/799,143 filed on November 27, 1991, the parent and grandparent applications of the present divisional application.

Pursuant to 37 CFR 1.98(d), copies of these forty-eight references are not being provided with this Information Disclosure Statement because the references were previously cited by or submitted to the Office in the prior applications

identified above and the prior applications are being relied upon in the present application for an earlier filing date under 35 USC 120 as required by 37 CFR 1.97(d)(1), and the references which were submitted to the Office in the prior applications were submitted in compliance with the version of 37 CFR 1.98(a)-(c) in effect as of the filing date of this Information Disclosure Statement as required by 37 CFR 1.98(d)(2).

Japanese reference 62-256925 listed on the forms PTO-1449 is cited on page 2 of the specification.

Japanese reference 1-112586 listed on the forms PTO-1449 is cited on page 4 of the specification.

PCT reference 89/08313 listed on the forms PTO-1449 is cited on page 1 of the specification.

U.S. Patent No. 4,479,154 listed on the forms PTO-1449 is a U.S. counterpart of Japanese reference 57-158064 listed on the forms PTO-1449.

U.S. Patent No. 5,023,615 listed on the forms PTO-1449 is a U.S. counterpart of Japanese reference 2-110352U listed on the forms PTO-1449.

U.S. Patent No. 5,264,975 listed on the forms PTO-1449 is a U.S. counterpart of Japanese references 3-108178 and 5-65957 listed on the forms PTO-1449.

Japanese reference 5-65957 listed on the forms PTO-1449 is a later publication of Japanese reference 3-108178 listed on the forms PTO-1449.

Five Japanese Office Actions mailed on August 5, 1997, August 18, 1998, January 19, 1999, June 15, 1999, and October 12, 1999, have been issued in a Japanese counterpart of the present application. Copies of these five Japanese Office Actions and English translations thereof were submitted to the Office in the parent application, together with copies of thirty-three Japanese references which were cited in the five Japanese Office Actions as follows:

Japanese Office Action mailed on 08/05/97

3-30007
4-44689

Japanese Office Action mailed on 08/18/98

59-16348
59-144155
60-38485U
60-46680U
60-55089U
60-133744
61-251U
61-79890U
61-173144U
62-256295
63-106035
1-292845
2-263382
4-44689

Japanese Office Action mailed on 01/19/99

1-72629U
1-189091

Japanese Office Action mailed on 06/15/99

58-3114
58-70565
58-94189U
59-116965
60-159596U
62-52955
62-60181
62-101160U
62-161398U

62-256295
62-270089
1-61855U
2-68710
2-71470
2-110352U
2-302974

Japanese Office Action mailed on 10/12/99

61-79890U
3-108178

The thirty-three Japanese references listed above are listed on the forms PTO-1449.

The following Japanese references listed on the forms PTO-1449 are not in the English language:

57-158064
58-3114
58-70565
58-94189U
59-16348
59-116965
59-144155
60-38485U
60-46680U
60-55089U
60-133744
60-159596U
61-251U
61-79890U
61-173144U
62-52955
62-60181
62-101160U
62-161398U
62-256295
62-270089
63-106035
1-61855U
1-112586
1-72629U
1-189091
1-292845
2-68710
2-71470
2-110352U
2-263382
2-302974
3-30007

3-108178
4-44689
5-74108
5-65957

The concise explanation of the relevance of Japanese reference 57-158064 required by 37 CFR 1.98(a)(3) is provided by U.S. Patent No. 4,479,154 which is a U.S. counterpart of this reference, and by an English abstract of this reference which was provided by the Office in the parent application.

The concise explanation of the relevance of Japanese references 58-3114, 58-70565, 59-116965, 62-52955, 62-60181, 62-270089, 2-68710, 2-71470, and 2-302974 required by 37 CFR 1.98(a)(3) is provided by the English translation of the Japanese Office Action mailed on June 15, 1999, citing these references which was submitted to the Office in the parent application, and by English abstracts of these references which were submitted to the Office in the parent application.

The concise explanation of the relevance of Japanese reference 58-94189U required by 37 CFR 1.98(a)(3) is provided by the English translation of the Japanese Office Action mailed on June 15, 1999, citing this reference which was submitted to the Office in the parent application, and by the following explanation:

> Disc unit 3 has a base 8, a control circuit 7 on the base 8, magnetic discs 5 on the control circuit 7, and a connector 9 provided to the base 8 (Fig. 2). This disc unit 3 further includes a power unit 2 (Fig. 1).

The concise explanation of the relevance of Japanese references 59-16348, 59-144155, 60-133744, 63-106035,

1-292845, and 2-263382 required by 37 CFR 1.98(a)(3) is provided by the English translation of the Japanese Office Action mailed on August 18, 1998, citing these references which was submitted to the Office in the parent application, and by English abstracts of these references which were submitted to the Office in the parent application.

The concise explanation of the relevance of Japanese references 60-38485U, 60-46680U, and 60-55089U required by 37 CFR 1.98(a)(3) is provided by the English translation of the Japanese Office Action mailed on August 18, 1998, citing these references which was submitted to the Office in the parent application, and by the following explanation:

> Japanese reference 60-46680U discloses a socket main unit 1 for receiving a semiconductor device 2, a lead unit 4 which is electrically connected to the semiconductor device 2 when the semiconductor device 2 is inserted into the main socket unit 1, a terminal unit 10 which is electrically connected to both the lead unit 4 and a substrate 6, and a vibration absorbing member 20 which is disposed at a portion of the socket main unit 1 which receives the semiconductor device 2. Japanese references 60-38485U and 60-55089U disclose similar elements.

The concise explanation of the relevance of Japanese reference 60-159596U required by 37 CFR 1.98(a)(3) is provided by the English translation of the Japanese Office Action mailed on June 15, 1999, citing this reference which was submitted to the Office in the parent application, and by the following explanation:

> On the base 1, there are mounted magnetic discs 3, and a carriage 5 that moves linearly in the far-to-near

> direction with respect to the rotating shaft of the magnetic discs 3. On the carriage 5, magnetic heads 4 are provided (Fig. 1). On the base 1, magnetic discs 3 and a carriage 5 that pivots centered on the shaft 5a are provided. The shaft 5a is parallel to the rotating shaft of the magnetic discs 3. Magnetic heads 4 are provided to the carriage 5 (Fig. 2).

The concise explanation of the relevance of Japanese references 61-251U and 61-173144U required by 37 CFR 1.98(a)(3) is provided by the English translation of the Japanese Office Action mailed on August 18, 1998, citing these references which was submitted to the Office in the parent application, and by the following explanation:

> Japanese reference 61-251U discloses a semiconductor device 4 having DIP-type connecting pins 5 in which holes 7 are formed to receive DIP-type connecting pins 5 of another semiconductor device 4 so as to enable one semiconductor device 4 to be mounted on top of another semiconductor device 4. Japanese reference 61-173144U discloses similar elements.

The concise explanation of the relevance of Japanese reference 61-79890U required by 37 CFR 1.98(a)(3) is provided by the English translations of the Japanese Office Actions mailed on August 18, 1998, and October 12, 1999, citing this reference which were submitted to the Office in the parent application, and by the following explanation:

> Japanese reference 61-79890U discloses a magnetic disk apparatus having a magnetic disk 4 and an external connecting terminal unit 1 which extends parallel to a recording surface of the magnetic disk 4.

The concise explanation of the relevance of Japanese reference 62-101160U required by 37 CFR 1.98(a)(3) is provided

by the English translation of the Japanese Office Action mailed on June 15, 1999, citing this reference which was submitted to the Office in the parent application, and by the following explanation:

> Hub 11 is rotatably mounted on the fixed shaft 13. On the outer periphery of the fixed shaft 13, a stator 15 is fixed and on the inner periphery of the hub 11, a rotor 14 is fixed (Fig. 2). The fixed shaft is divided into two parts, i.e., upper fixed shaft 6 and lower fixed shaft 5, and the hub 11 is rotatably mounted on the two parts. The stator 15 is fixed on the top of the lower fixed shaft 5 and the rotor 14 is fixed on the inner periphery of the hub 11 (Fig. 1). This reference relates to an outer ring rotating system.

The concise explanation of the relevance of Japanese reference 62-161398U required by 37 CFR 1.98(a)(3) is provided by the English translation of the Japanese Office Action mailed on June 15, 1999, citing this reference which was submitted to the Office in the parent application, and by the following explanation:

> A magnetic disc apparatus comprises base (1a, 1b), a hub 5 that is rotatably mounted on the base, a plurality of magnetic discs 9 fixed on the hub 5, and a driving device 8 for rotating the hub 5. The base (1a, 1b) has a circular plate 1a and a cylindrical body 1b. A circular concave portion 1c is formed on the circular plate 1a. A printed substrate 13 is put on the circular plate 1a. Electronic parts 14 are provided on the position of the concave portion 1c of the circular plate 1a (Fig. 1).

The concise explanation of the relevance of Japanese reference 62-256295 required by 37 CFR 1.98(a)(3) is provided by the English translations of the Japanese Office Actions

mailed on August 18, 1998, and June 15, 1999, citing this reference which were submitted to the Office in the parent application, by three English abstracts of this reference which were submitted to the Office in the parent and grandparent applications, and by the discussion of this reference on page 2 of the specification as permitted by the last sentence of 37 CFR 1.98(a)(3).

The concise explanation of the relevance of Japanese reference 1-61855U required by 37 CFR 1.98(a)(3) is provided by the English translation of the Japanese Office Action mailed on June 15, 1999, citing this reference which was submitted to the Office in the parent application, and by the following explanation:

> Rotating shaft 8 to which hub 2 is fixed is provided in hollow cylindrical unit 3a via bearings 6, 7. Rotor 5 is fixed on the inner periphery of the hub 2, and stator 4 is fixed on the outer periphery of the hollow cylindrical unit 3a (Fig. 1, inner ring rotating system, inner hub type). The rotating shaft to which the hub 2 is fixed is provided within the hollow cylindrical unit of the base 3 via bearings. On the lower section of the base 3, the stator 4 is fixed and the rotor 5 is fixed on the bracket which extends from the lower section of the rotating shaft (Fig. 3, inner ring rotating system, outer hub type).

The concise explanation of the relevance of Japanese reference 1-112586 required by 37 CFR 1.98(a)(3) is provided by an English abstract of this reference which was submitted to the Office in the grandparent application, and by the discussion of this reference on pages 2-5 of the specification as permitted by the last sentence of 37 CFR 1.98(a)(3).

The concise explanation of the relevance of Japanese reference 1-72629U required by 37 CFR 1.98(a)(3) is provided by the English translation of the Japanese Office Action mailed on January 19, 1999, citing this reference which was submitted to the Office in the parent application, and by the following explanation:

> A main control unit 10 is provided with a connector 17 for connecting to an auxiliary storage 30 in such a manner as being attachable/detachable. There are provided power lines 22 and signal buses 23, and so on between the connector 17 and the CPU 11. There is provided a group of relay connecting points 15 for opening/closing the electrical connection, in the lines 22 and the buses 23. A relay control circuit 14 controls the group of relay connecting points.

The concise explanation of the relevance of Japanese reference 1-189091 required by 37 CFR 1.98(a)(3) is provided by the English translation of the Japanese Office Action mailed on January 19, 1999, citing this reference which was submitted to the Office in the parent application, and by an English abstract of this reference which was submitted to the Office in the parent application.

The concise explanation of the relevance of Japanese reference 2-110352U required by 37 CFR 1.98(a)(3) is provided by U.S. Patent No. 5,023,615 which is a U.S. counterpart of this reference, by the English translation of the Japanese Office Action mailed on June 15, 1999, citing this reference which was submitted to the Office in the parent application, and by the following explanation:

> LSI 10 of one chip has a digital signal processing unit 11 and an analog signal processing unit 12. The digital signal processing unit 11 and the analog signal processing unit 12 are respectively provided with their own grounding electrodes 14 and 15. At the boundary 13 between the above two processing units, there is provided another grounding electrode (Fig. 1).

The concise explanation of the relevance of Japanese reference 3-30007 required by 37 CFR 1.98(a)(3) is provided by the English translation of the Japanese Office Action mailed on August 5, 1997, citing this reference which was submitted to the Office in the parent application, and by an English abstract of this reference which was submitted to the Office in the parent application.

The concise explanation of the relevance of Japanese reference 3-108178 required by 37 CFR 1.98(a)(3) is provided by U.S. Patent No. 5,264,975 which is a U.S. counterpart of this reference, and by the English translation of the Japanese Office Action mailed on October 12, 1999, citing this reference which was submitted to the Office in the parent application.

The concise explanation of the relevance of Japanese reference 4-44689 required by 37 CFR 1.98(a)(3) is provided by the English translations of the Japanese Office Actions mailed on August 5, 1997, and August 18, 1998, citing this reference which were submitted to the Office in the parent application, and by three English abstracts of this reference which were submitted to the Office in the parent application.

The concise explanation of the relevance of Japanese reference 5-74108 required by 37 CFR 1.98(a)(3) is provided by an English abstract of this reference which was provided by the Office in the parent application.

The concise explanation of the relevance of Japanese reference 5-65957 required by 37 CFR 1.98(a)(3) is provided by U.S. Patent No. 5,264,975 which is a U.S. counterpart of this reference.

The publication date of Japanese reference 2-302974 listed on the forms PTO-1449 is December 14, 1990, which is before the effective U.S. filing date of November 27, 1991, of the present application, and is before the filing date of March 5, 1991, of Japanese priority application No. 3-38385 of the present application, but is after the filing date of November 28, 1990, of Japanese priority application No. 2-331554 of the present application.

The publication date of Japanese reference 3-30007 listed on the forms PTO-1449 is February 8, 1991, which is before the effective U.S. filing date of November 27, 1991, of the present application, and is before the filing date of March 5, 1991, of Japanese priority application No. 3-38385 of the present application, but is after the filing date of November 28, 1990, of Japanese priority application No. 2-331554 of the present application.

The publication date of Japanese reference 3-108178 listed on the forms PTO-1449 is May 8, 1991, which is before the effective U.S. filing date of November 27, 1991, of the

present application, but is after the filing date of March 5, 1991, of Japanese priority application No. 3-38385 of the present application, and is after the filing date of November 28, 1990, of Japanese priority application No. 2-331554 of the present application.

As indicated in the claim for priority submitted herewith, certified copies of Japanese priority application Nos. 2-331554 and 3-38385 of the present application were filed on August 4, 1993, in application Serial No. 07/799,143 filed on November 27, 1991, the grandparent application of the present divisional application.

Thus, Japanese references 2-302974 and 3-30007 listed on the forms PTO-1449 would not be available as references against any claims of the present application which are supported by Japanese priority application No. 2-331554 of the present application, and Japanese reference 3-108178 listed on the forms PTO-1449 would not be available as a reference against any claims of the present application which are supported by at least one of Japanese priority application Nos. 2-331554 and 3-38385 of the present application, if the applicants were to file accurate English translations of Japanese priority application Nos. 2-331554 and 3-38385 of the present application to perfect the applicants' claim for priority pursuant to 37 CFR 1.55(a)(4) and MPEP 201.15.

Accurate English translations of Japanese priority application Nos. 2-331554 and 3-38385 of the present application were filed on February 3, 1995, in application

Serial No. 08/176,689 filed on January 3, 1994, the parent application of the present divisional application, and will be filed in the present application after the applicants have received a filing receipt for the present application.

Japanese references 4-44689 (publication date February 14, 1992), 5-74108 (publication date March 26, 1993), and 5-65957 (publication date September 20, 1993) listed on the forms PTO-1449 are not available as references against any claims of the present application because the publication dates of these three references are after the effective U.S. filing date of November 27, 1991, of the present application.

Pursuant to 37 CFR 1.97(b)(1), this Information Disclosure Statement is being submitted within three months of the filing date of the above-identified national application.

It is respectfully requested that this Information Disclosure Statement be considered.

Respectfully submitted,

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Attachments